

WHAT IS CLAIMED IS:

1. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

- (a) a polynucleotide fragment of SEQ ID NO:1;
- (b) a polynucleotide encoding a polypeptide fragment of SEQ ID NO:2;
- (c) a polynucleotide encoding a polypeptide domain of SEQ ID NO:2;
- (d) a polynucleotide encoding a polypeptide epitope of SEQ ID NO:2;
- (e) a polynucleotide encoding a polypeptide of SEQ ID NO:2 having biological activity;
- (f) a polynucleotide which is a variant of SEQ ID NO:1;
- (g) a polynucleotide which is an allelic variant of SEQ ID NO:1;
- (h) a polynucleotide which encodes a species homologue of the SEQ ID NO:2;
- (i) a polynucleotide capable of hybridizing under stringent conditions to any one of the polynucleotides specified in (a)-(h), wherein said polynucleotide does not hybridize under stringent conditions to a nucleic acid molecule having a nucleotide sequence of only A residues or of only T residues.

2. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises a nucleotide sequence encoding a mature form or a secreted protein.

3. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises a nucleotide sequence encoding the sequence identified as SEQ ID NO:2.

4. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises the entire nucleotide sequence of SEQ ID NO:1.

5. The isolated nucleic acid molecule of claim 2, wherein the nucleotide sequence comprises sequential nucleotide deletions from either or both the C-terminus or the N-terminus.

6. The isolated nucleic acid molecule of claim 3, wherein the nucleotide sequence comprises sequential nucleotide deletions from either or both the C-terminus or the N-terminus.

7. A recombinant vector comprising the isolated nucleic acid molecule of claim 1.

8. A method of making a recombinant host cell comprising the isolated nucleic acid molecule of claim 1.

9. A recombinant host cell produced by the method of claim 8.

10. The recombinant host cell of claim 9 comprising vector sequences.

11. An isolated polypeptide comprising an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

(a) a polypeptide fragment of SEQ ID NO:2;

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(b) a polypeptide fragment of SEQ ID NO:2 having biological activity;

(c) a polypeptide domain of SEQ ID NO:2;

(d) a polypeptide epitope of SEQ ID NO:2;

(e) a mature form of a secreted protein;

(f) a full length secreted protein;

(g) a variant of SEQ ID NO:2;

(h) an allelic variant of SEQ ID NO:2; or

(i) a species homologue of the SEQ ID NO:2.

12. The isolated polypeptide of claim 11, wherein the mature form or the full length secreted protein comprises sequential amino acid deletions from either or both the C-terminus or the N-terminus.

13. An isolated antibody that binds specifically to the isolated polypeptide of claim 11.

14. A recombinant host cell that expresses the isolated polypeptide of claim 11.

15. A method of making an isolated polypeptide comprising:

(a) culturing the recombinant host cell of claim 14 under conditions such that said polypeptide is expressed; and

(b) recovering said polypeptide.

16. The polypeptide produced by claim 15.

17. A method for preventing, treating, or ameliorating a medical condition which comprises administering to a mammalian subject a therapeutically effective amount of the polypeptide of claim 11 or of the polynucleotide of claim 1 or of the antibody of claim 13.

18. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject related to expression or activity of a secreted protein comprising:

(a) determining the presence or absence of a mutation in the polynucleotide of claim 1;

(b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or absence of said mutation.

19. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject related to expression or activity of a secreted protein comprising:

(a) determining the presence or amount of expression of the polypeptide of claim 11 in a biological sample;

(b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or amount of expression of the polypeptide.

20. A method for identifying binding partner to the polypeptide of claim 11 comprising:

(a) contacting the polypeptide of claim 11 with a binding partner;
and

(b) determining whether the binding partner effects an activity of the polypeptide.

21. The gene corresponding to the cDNA sequence of SEQ ID NO: 1.

22. A method of identifying an activity in a biological assay, wherein the method comprises:

- (a) expressing SEQ ID NO: 1 in a cell;
- (b) isolating the supernatant;
- (c) detecting an activity in a biological assay; and
- (d) identifying the protein in the supernatant having the activity.

23. The product produced by the method of claim 22.

24. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

- (a) a polynucleotide fragment of SEQ ID NO: 1;
- (b) a polynucleotide encoding a polypeptide fragment of SEQ ID NO: 2;
- (c) a polynucleotide encoding a polypeptide domain of SEQ ID NO: 2;
- (d) a polynucleotide encoding a polypeptide epitope of SEQ ID NO: 2;
- (e) a polynucleotide encoding a polypeptide of SEQ ID NO: 2 having biological activity;
- (f) a polynucleotide which is a variant of SEQ ID NO: 2XXXXXX];
- (g) a polynucleotide which is an allelic variant of SEQ ID NO: 1;
- (h) a polynucleotide which encodes a species homologue of the SEQ ID NO: 2;

(i) a polynucleotide capable of hybridizing under stringent conditions to any one of the polynucleotides specified in (a)-(h), wherein said polynucleotide does not hybridize under stringent conditions to a nucleic acid molecule having a nucleotide sequence of only A residues or of only T residues.

25. An isolated polypeptide comprising an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

- (a) a polypeptide fragment of SEQ ID NO:2;
- (b) a polypeptide fragment of SEQ ID NO:2 having biological activity;
- (c) a polypeptide domain of SEQ ID NO:2;
- (d) a polypeptide epitope of SEQ ID NO:2;
- (e) a mature form of a secreted form of SEQ ID NO:2;
- (f) a full length secreted form of SEQ ID NO:2;
- (g) a variant of SEQ ID NO:2;
- (h) an allelic variant of SEQ ID NO:2; or
- (i) a species homologue of the SEQ ID NO:2.

26. A method for tumor diagnosis in an individual comprising assaying the expression level of the gene encoding the C35 protein in cells or body fluid of the individual and comparing the gene expression level with a standard C35 gene expression level, whereby an increase in the gene expression level over the standard is indicative of malignant tumor.

27. The method of claim 26, wherein said tumor is human breast carcinoma.

28. A pharmaceutical composition comprising the isolated polypeptide of claim 11, in combination with a pharmaceutically acceptable carrier.

29. The pharmaceutical composition of claim 28, further comprising an adjuvant.

30. A method for generating immune responses in a host comprising administering the pharmaceutical composition of claim 28 or claim 29 to said host.

31. The method of claim 30, wherein said host is a human.

32. A method for generating specific antibodies and/or T-cells in a host comprising introducing a sufficient amount of a virus vector into said host to stimulate production of specific antibodies and/or T cells, wherein said virus vector contains a polynucleotide encoding a C35 antigen operably linked to a promoter capable of expression in said host.

33. The method of claim 32, wherein said host is human.

34. The method of claim 33, wherein said antibodies and/or T-cells are specific for human carcinoma.

35. The method of claim 32, wherein said virus vector is vaccinia virus.

36. The method of claim 32, wherein said virus vector is live.

37. The method of claim 32, wherein said virus vector is attenuated.